

CompTIA® Network+® (Exam N10-005)

Course Specifications

Course length: 5.0 day(s)

Certification: The CompTIA® Network+® (Exam N10-005) course is designed to help you prepare for the N10-005 exam. Taking this course and using this student guide will help you prepare for the certification. You should also refer to the exam objectives to see how they map to the course content.

Course Description

Course Objective: You will describe the major networking technologies, systems, skills, and tools in use in modern networks.

Target Student: This course is intended for entry-level computer support professionals with a basic knowledge of computer hardware, software, and operating systems to prepare for the CompTIA® Network+® (Exam N10-005), or who wish to increase their knowledge and understanding of networking concepts and acquire the required skills to prepare for a career in network support or administration. A typical student taking up the CompTIA® Network+® (Exam N10-005) course should have a minimum of nine months or more of professional computer support experience as a PC or help desk technician. Networking experience is helpful but not mandatory; A+ certification or equivalent skills and knowledge is helpful but not mandatory.

Prerequisites: To ensure your success, you will need basic Windows end-user computer skills. To meet this prerequisite, you can take any one or more of the following Element K courses, or have equivalent experience:

- Introduction to Personal Computers: Using Windows XP
- Windows XP Professional: An Introduction
- Introduction to Personal Computers: Using Windows 7
- Microsoft® Windows® 7: Level 1
- Microsoft® Windows® 7: Level 2

In addition, we highly recommend that you hold the CompTIA A+ certification, or have equivalent skills and knowledge. You may want to take the following Element K course: CompTIA® A+® Certification: A Comprehensive Approach for All 2009 Exam Objectives ((Windows® 7)) (Comprehensive)

Course Objectives

Upon successful completion of this course, students will be able to:

- identify the basic network theory concepts.
- identify the major network communications methods.
- describe network media and hardware components.
- identify the major types of network implementations.
- identify the components of a TCP/IP network implementation.
- identify TCP/IP addressing and data delivery methods.
- identify the major services deployed on TCP/IP networks.
- identify the components of a LAN implementation.
- identify the infrastructure of a WAN implementation.

- identify the components of a remote network implementation.
- identify the major issues and methods to secure systems on a network.
- identify the major issues and technologies in network security.
- identify network security threats and attacks.
- identify the tools, methods, and techniques used in managing a network.
- describe troubleshooting of issues on a network.

Course Content

Lesson 1: Network Theory

Topic 1A: Networking Terminology

Topic 1B: Network Categories

Topic 1C: Standard Network Models

Topic 1D: Physical Network Topologies

Topic 1E: Logical Network Topologies

Lesson 2: Network Communications Methods

Topic 2A: Data Transmission Methods

Topic 2B: Media Access Methods

Topic 2C: Signaling Methods

Lesson 3: Network Media and Hardware

Topic 3A: Bounded Network Media

Topic 3B: Unbounded Network Media

Topic 3C: Noise Control

Topic 3D: Network Connectivity Devices

Lesson 4: Network Implementations

Topic 4A: Ethernet Networks

Topic 4B: Wireless Networks

Lesson 5: Networking Models

Topic 5A: The OSI Model

Topic 5B: The TCP/IP Model

Lesson 6: TCP/IP Addressing and Data Delivery

Topic 6A: The TCP/IP Protocol Suite

Topic 6B: IP Addressing

Topic 6C: Default IP Addressing Schemes

Topic 6D: Create Custom IP Addressing Schemes

Topic 6E: Implement IPv6 Addresses

Topic 6F: Delivery Techniques

Lesson 7: TCP/IP Services

Topic 7A: Assign IP Addresses

Topic 7B: Domain Naming Services

Topic 7C: TCP/IP Commands

Topic 7D: Common TCP/IP Protocols

Topic 7E: TCP/IP Interoperability Services

Lesson 8: LAN Infrastructure

Topic 8A: Switching

Topic 8B: Enable Static Routing

Topic 8C: Implement Dynamic IP Routing

Topic 8D: Virtual LANs

Topic 8E: Plan a SOHO Network

Lesson 9: WAN Infrastructure

Topic 9A: WAN Transmission Technologies

Topic 9B: WAN Connectivity Methods

Topic 9C: Voice over Data Transmission

Lesson 10: Remote Networking

Topic 10A: Remote Network Architectures

Topic 10B: Remote Access Networking Implementations

Topic 10C: Virtual Private Networking

Topic 10D: VPN Protocols

Lesson 11: System Security

Topic 11A: Computer Security Basics

Topic 11B: System Security Tools

Topic 11C: Authentication Methods

Topic 11D: Encryption Methods

Lesson 12: Network Security

Topic 12A: Network Perimeter Security

Topic 12B: Intrusion Detection and Prevention

Topic 12C: Protect Network Traffic Using IPSec

Lesson 13: Network Security Threats and Attacks

Topic 13A: Network-Based Security Threats and Attacks

Topic 13B: Apply Threat Mitigation Techniques

Topic 13C: Educate Users

Lesson 14: Network Management

Topic 14A: Network Monitoring

Topic 14B: Configuration Management Documentation

Topic 14C: Network Performance Optimization

Lesson 15: Network Troubleshooting

Topic 15A: Network Troubleshooting Models

Topic 15B: Network Troubleshooting Utilities

Topic 15C: Hardware Troubleshooting Tools

Topic 15D: Common Connectivity Issues